# METHOD AND APPARATUS FOR PROLONGING THE LIFE OF AN X-RAY TARGET

[**ABSTRACT:**] ABSTRACT OF THE DISCLOSURE

An X-ray generator [(1)] comprises an evacuated and sealed X-ray tube [(2)], containing an electron gun [(3)] and an X-ray target [(4)]. An electron beam is produced by the electron gun [(3)] in which the cathode is at negative high voltage, the electron gun [(3)] consisting of a filament just inside the aperture [(11)] of a Wehnelt grid which is biased negatively with respect to the filament. Two sets of beam deflection coils [(14)], are employed in two planes, mounted between the anode of the electron gun [(3)] and the focussing lens [(15)] to [centre] center the beam. Between the focussing lens [(15)] and the target [(4)] is an air-cored [quadrupole] quadripole magnet which acts as a stigmator [(16)] in that it turns the circular cross-section of the beam into an elongated one. This [quadrupole] quadripole [(16)] can be rotated about the tube axis so as to adjust the orientation of the line focus. The beam can be moved about on the target surface [(4)] by controlling the currents in the four coils of the [quadrupole (16).] quadripole.